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REMARKS

Claim rejections under 35 USC 102(b) as to Otsuki (6,527,360)

Claims 1-5, 7-11, 29, and 34-35 have been rejected under 35 USC 102(b) as being anticipated by Otsuki. Claims 1 and 29 are independent claims, from which the remaining claims rejected on this basis ultimately depend. Applicant respectfully traverses the rejection as to claims 1 and 29, as have been amended, such that the claims 2-5, 7-11, and 34-35 are patentable for at least the same reasons that claims 1 and 29 are.

Claim 1 is discussed as representative of claims 1 and 29, insofar as patentability over Otsuki is concerned. In particular, claim 1 has been amended so that the media-positioning sensor is "to detect *relative movement of the media* along at least one of the first axis and the second axis." Support for this amendment is found in the patent application as filed at least on page 9, lines 5-32. For instance, "relative media movement" is discussed as being detected on lines 10, 16, and 25 of page 9.

Applicant now discusses how "relative movement of the media," as detected by the claimed invention, is to be properly construed and interpreted. Applicant acknowledges that the ordinary and accustomed meaning of this terminology may render determination of the scope of the claimed invention unclear, such that resorting to intrinsic evidence in particular is useful in understanding what is meant by this new limitation of the claimed invention. In this respect, examining page 9, lines 5-32, of the patent application as filed is useful to understand what is meant by "relative movement of the media."

The patent application as filed, on page 9, lines 5-24, notes that "over a distance of one inch of relative media movement . . . the sensor generates R of the signals." (P. 9, ll. 10-11) Furthermore, "where relative media movement occurs parallel to the direction of the advancement of the media, . . . for each 1/R-inch movement of the media relative to the mechanism 114 . . . , one of the signals 904 . . . is generated by the sensor." (P. 9, ll. 25-29) Thus, the idea here is this:

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if the media relatively moves a distance of X inches, then a number of signals X times R will be generated. Therefore, regardless of where the media is currently, in terms of absolute position, subsequent relative movement of the media is able to be detected.

As such, relative movement of the media, as to which the claimed invention is limited, is in contradistinction to absolute movement of the media. The claimed invention detects positioning of the media at least insofar as it is able to detect *how much* the media has moved, along one of two axes. What is important here is thus that the *relative* movement of the media is detected, as opposed to, for instance, the *absolute* position of the media. While the claimed invention in some embodiments may be able to detect the absolute position of the media, it is explicitly limited to at least detect relative media movement. That is, relative media movement detection, as properly construed, includes detecting *how much* the media has moved.

Applicant is amenable to the Examiner's suggestions in limiting the claims to make this distinction more clear, if the Examiner does not think that the claimed invention is clear as currently presented. In this respect, Applicant encourages the Examiner to contact Applicant's representative, Michael Dryja, at the phone number listed below, if she believes that such additional clarification should be introduced into the claim language.

Now, Otsuki does not anticipate the claimed invention as has been amended. The Examiner has identified the media-positioning sensor 33 of FIG. 6 in Otsuki as that which corresponds to the media-positioning sensor of the claimed invention. However, Applicant respectfully submits that the media-positioning sensor 33 of FIG. 6 in Otsuki does not disclose the newly added limitation of the claimed invention. That is, Otsuki's media-positioning sensor does not detect *relative movement of the media* along at least one of the first axis and the second axis, in contradistinction to the claimed invention. Its sensor, in other words, does not detect *how much* the media has moved.

The media-positioning sensor 33 of Otsuki is described in Otsuki as follows. "The photoreflector 33 is used to detect the presence of printing paper P *at a specified point DP* in the

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connection 26d between the left slot 26a and downstream slot 26r.” (Col. 6, ll. 46-49) Thus, “[t]he feeding of the printing paper P . . . is stopped when the printing paper P is fed . . . and the front edge thereof is detected by the photorelector 33.” (Col. 6, ll. 50-53) Therefore, Otsuki’s media-positioning sensor 33 detects a *single absolute position of the media* along an axis, particularly whether the front edge of the media is such that the media is at the specified point DP. It cannot detect *relative movement* of the media, as in the claimed invention. For instance, once the media moves away from this specified point DP, Otsuki’s media-positioning sensor cannot detect how far the media has moved away. That is, once the media moves away from this specified point DP, Otsuki’s media-positioning sensor cannot detect *relative media movement*.

By interpreting what the terminology relative media movement means in the claimed invention, by properly resorting to intrinsic evidence, and then by examining what Otsuki teaches, it is therefore clear that Otsuki does not disclose this added limitation of the claimed invention. Otsuki discloses the detection of absolute positioning of the media – whether the media is at the specified point DP, or whether it is not. Otsuki does not further disclose the detection of *relative media movement* therebefore or thereafter – how much the media has moved before or after this point DP, for instance. For this reason, Otsuki does not anticipate the claimed invention.

As has been noted above, Applicant is amenable to further amendment of the claimed invention if such further amendment would clarify the subject invention, such that it would satisfy the Examiner that the claimed invention is not anticipated by Otsuki. The Examiner in this regard should contact Applicant’s representative, Michael Dryja, at the phone number listed below, with her suggestions as to further clarification of the subject invention.

Claim rejections under 35 USC 102(b) as to Kato (2004/0108474)

Claims 16-18, 20, 22, and 26-28 have been rejected under 35 USC 102(b) as being anticipated by Kato. Claims 16 and 27 are independent claims, from which the remaining claims rejected on this basis ultimately depend. Applicant respectfully traverses the rejection as to claims

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16 and 27, as have been amended, such that claims 18, 20, 22, and 28 are patentable for at least the same reasons that claims 16 and 27 are.

Claim 16 is discussed as representative of claims 16 and 27, insofar as patentability over Kato is concerned. Consistent with the amendment made to claim 1, as discussed above, claim 16 has been amended so that the media-positioning sensor is “to detect *relative movement of the media* along at least one of the first axis and the second axis.” As has been discussed above, the proper construal of this terminology is that detecting relative media movement means detecting how much or how far the media has moved, relative to the sensor.

Kato does not anticipate the claimed invention as has been amended. The Examiner has identified the sensor 68 of Kato as that which corresponds to the media-positioning sensor of the claimed invention. However, Applicant respectfully submits that the sensor 68 of Kato does not disclose the newly added limitation of the claimed invention. That is, Kato’s media-positioning sensor does not detect *relative movement of the media* along at least one of the first axis and the second axis, in contradistinction to the claimed invention. Its sensor, in other words, does not detect *how much* the media has moved.

The sensor 68 of Kato is described in Kato as follows. “[A] media sensor 68 is provided on the left end of the print head 10 as a downstream sensor for detecting *the leading edge, trailing edge, and widthwise edges of the paper.*” (Para. [0048]) The media sensor 68 is thus “for detecting a paper P.” (Para. [0054]) That is, “[w]hen the media sensor 68 is located above an area inside the paper P, the media sensor 68 confronts the sheet of paper P.” (Para. [0048]) Likewise, “[w]hen the media sensor 68 is located above the area outside the paper P, the media sensor 68 confronts the platen 17.” (Para. [0048]) Furthermore, paragraph [0058] of Kato describes how the constituent elements of the sensor 68 are configured so that different signals are received depending on whether the sensor 68 is opposite the paper P or opposite the platen. In this way, the sensor 68 can detect *four absolute positions* of the media – the leading and trailing edges, and the widthwise edges, of the media. In other words, Kato’s sensor can detect

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whether paper (i.e., media) is confronting it, or whether “no paper” (i.e., the platen) is confronting it.

Thus, what Kato’s sensor 68 cannot do is detect *relative movement* of the media, as in the claimed invention. For instance, once the media has been moved away from the leading edge thereof, Kato’s sensor 68 can no longer detect *how much* the media has been moved, until the media has been moved to its trailing edge. In-between the four edges of the media, Kato’s media-positioning sensor cannot detect any *relative media movement*. It can only detect four absolute positions of the media, the four edges of the media, and not any *relative media movement* – not, for instance, *how much* the media has been moved in-between these four edges. Kato can only detect whether paper or no paper is confronting its sensor. From a starting position of the paper in which the sensor is confronting the paper, to an ending position of the paper in which the sensor is still confronting the paper, Kato’s sensor cannot detect how much the paper has been relatively media in-between.

By interpreting what the terminology relative media movement means in the claimed invention, by properly resorting to intrinsic evidence, and then by examining what Kato teaches, it is therefore clear that Kato does not disclose this added limitation of the claimed invention. Kato discloses the detection of absolute positioning of the media – whether the media has been moved to one of its four edges, or whether the media has not been moved to one of its four edges. Kato’s sensor can only detect whether it is confronting media or a platen (i.e., no media). Kato does not further disclose the detection of *relative media movement* thereafter or therebefore – how much the media has been moved between its four edges. By only being able to detect just whether it is confronting paper or no paper, Kato’s sensor cannot *how much* the media has moved, and thus cannot detect relative media movement. For these reasons, Kato does not anticipate the claimed invention.

As has been noted, Applicant is amenable to further amendment of the claimed invention if such further amendment would clarify the subject invention, such that it would satisfy the

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Examiner that the claimed invention is not anticipated by Kato. The Examiner in this regard should contact Applicant's representative, Michael Dryja, at the phone number listed below, with her suggestions as to further clarification of the subject invention.

Claim rejections under 35 USC 103(a)

Claims 13, 32, and 33 have been rejected under 35 USC 103(a) as being unpatentable over Otsuki in view of Kato. Claims 23 and 24 have been rejected under 35 USC 103(a) as being unpatentable over Kato in view of Otsuki. Claims 14 and 31 have been rejected under 35 USC 103(a) as being unpatentable over Otsuki in view of Campbell (2004/0119769). Claim 15 has also been rejected under 35 USC 103(a) as being unpatentable over Otsuki in view of Campbell. Claim 21 has been rejected under 35 USC 103(a) as being unpatentable over Kato in view of Campbell.

All of these claims are dependent claims, ultimately depending from one of the independent claims rejected under 35 USC 102(b) as to Otsuki or Kato. Therefore, all of the claims rejected under 35 USC 103(a) are patentable for at least the same reasons that their base independent claims are patentable, as has been discussed above.

Allowable subject matter

Claims 6, 12, 19, 25, 30, 36, and 37 have been objected to as being dependent upon a rejected base claim, but which would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant thanks the Examiner for this conditional allowance of these claims.

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Conclusion

Applicants have made a diligent effort to place the pending claims in condition for allowance, and request that they so be allowed. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Mike Dryja, Applicants' Attorney, at 425-427-5094, so that such issues may be resolved as expeditiously as possible. For these reasons, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,



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Date

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